December 1981

fuel oil news

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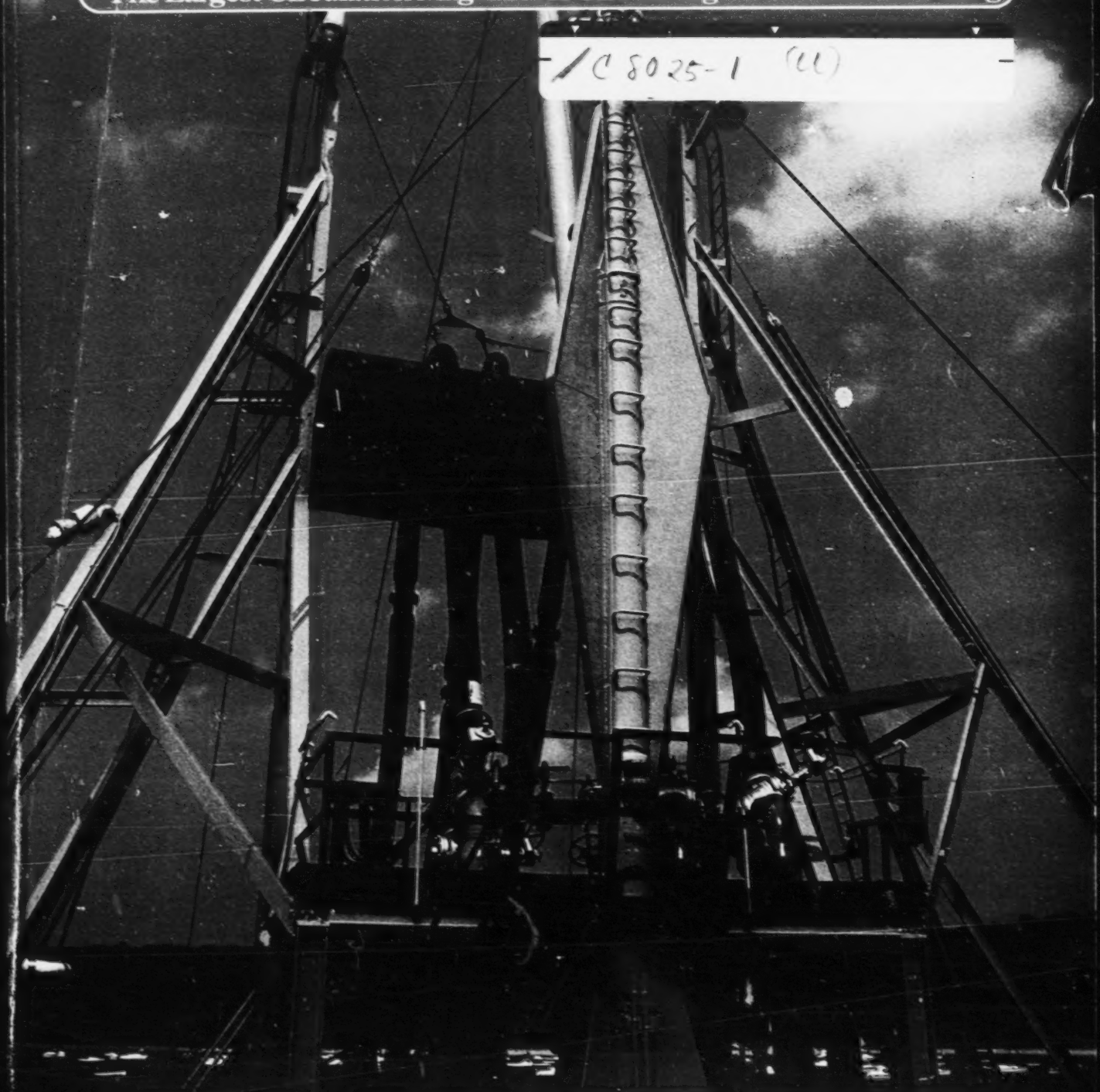

1982 SOURCE BOOK

fuel oil news

Serving the Industry Since 1935—December 1981/Volume 46/Number 12

1982 SOURCE BOOK

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Cover:
Our fourth annual Source Book contains what we like to call "everything you always wanted to know about the oil heating industry but didn't know where to look." The source of most heating oil comes to dealers from the loading rack, but it arrives there in many ways, including barges. On the cover is Northville Industries' barge unloading rack at Port Jefferson Harbor on Long Island, NY. Photo by Martin Iger.

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Few Customer Losses Despite Competition

Annual Study
Part I

When we begin our annual study, we're always extremely anxious to see the results, and this year, somewhat apprehensive. All the talk about conservation and conversions to gas over the past couple of years had "gloom and doom" predictors signing the fuel oil industry's death certificate. Well, we're delighted to report that, despite losses and energy conservation, the fuel oil industry isn't about to lay down and die, according to our fourth annual industry study conducted among fuel oil dealers throughout the country.

As Table 1 demonstrates, more than 95 percent of fuel dealers actually sell fuel oil. The remaining few are equipment installers or service contractors. Regionally the figure is fairly constant, which fortifies all the other figures generated by the survey.

TABLE 1
Percent of Fuel Oil Dealers That Sell, Install and/or Service All Types of Heating/Cooling Equipment

New England	91.9%
Mid-Atlantic	85.0
South	60.0
Midwest	45.0
West	72.7
All Sections	*70.9%*

Last year, we reported that more than half of the dealers also handled gasoline, either at retail or bulk, and while this year's figures are lower, just 43.3 percent, the discrepancy can be attributed to variations in the random sampling process used. The Midwest is still heavily gasoline-oriented, with some 90 percent of the dealers reporting that they also sell motor fuels. These dealers are almost evenly divided between retailers and resellers, as noted in Table 3. Other regions showed some fluctuation in percentage of dealers selling gasoline, but the net effect is that gasoline is still a significant factor in dealer operations.

Volumes and numbers of customers changed since last year, but remarkably, the average number of customers, both residential fuel oil accounts and commercial/industrial, rose. Average volumes rose too (sample error), but the volume per residential account remains constant: 1410 gallons in 1981 vs. 1429 gallons last year. We adjusted the question on number of employees this year, asking dealers to include themselves in the count, so the overall figure rose from 9.9 employees per dealership in 1980 to 12.7 employees this year. This figure includes office personnel, part-timers and seasonal.

TABLE 2
Average Size of Business

	No. Residential Fuel Oil Accts	No. C/I Customers	Vol. Distillate	Vol. Gasoline	No. Employees
New England	1384	119	1,875,333 gal.	1,595,833 gal.	12.9
Mid-Atlantic	1643	232	3,233,394	1,852,778	14.2
South	1445	55	1,002,000	1,313,334	9.6
Midwest	1398	146	2,759,000	3,180,833	12.3
West	2612	174	3,089,091	416,667	14.3
All Sections	*1696*	*145*	*2,391,763*	*1,671,889*	*12.7*

TABLE 3
Sources of Business Income
(Percent of Total Business Income)

	FUEL OIL			
	Retail		Bulk	
	Primary	Secondary	Primary	Secondary
New England	89.2%	2.7%	*	5.4%
Mid-Atlantic	87.5	5.0	10.0	7.5
South	93.3	6.7	6.7	6.7
Midwest	77.5	17.5	17.5	20.0
West	100	—	9.1	9.1
All Sections	*89.5%*	*6.4%*	*8.7%*	*9.7%*

	GASOLINE			
	Retail		Bulk	
	Primary	Secondary	Primary	Secondary
New England	13.5	*	2.7%	5.4%
Mid-Atlantic	30.0	7.5	25.0	10.0
South	6.7	20.0	6.7	6.7
Midwest	52.5	15.0	42.5	22.5
West	9.1	9.1	*	18.2
All Sections	*22.4%*	*10.3%*	*15.4%*	*12.6%*

*Less than .1%

Table 3 provides an insight into how important various aspects of fuel sales are to the dealers surveyed. The retail sale of fuel oil is by far the most important, representing a primary source of income for 89.5 percent of dealers. Retail sales were considered only a secondary source of income by just 6.4 percent. By the same token, bulk fuel oil sales was of primary importance to only 8.7 percent, and a secondary source of income to a mere 9.7 percent. Retail gasoline sales was a primary source of income to 22.4 percent of the dealers surveyed. Last year, 19.8 percent considered gasoline sales at the pump a primary source of income, so the figure rose slightly. Fewer dealers consider retail gasoline a secondary source of income, 10.3 percent this year vs. 11.5 percent in 1980. Also, fewer dealers said that bulk gasoline sales were important to their operation. Just 15.4 percent said it was a primary source of income, as opposed to 33.4 percent last year; 12.6 percent call it secondary, when last year 14.3 percent responded.

Gasoline is also becoming less of a factor in overall product volume, according to the survey. As Table 4 reveals, 14.0 percent of the total volume of all products is gasoline. Last year, gasoline amounted to 25 percent of total gallonage. No. 2 oil, both for heating and as diesel fuel, rose since last year. It represents a total of 74.4 percent, as opposed to 63.6 percent last year. The percentages of all the other fuels fluctuated less than one point since last year.

Table 5 also remained fairly constant since last year. Private homes make up more than 80 percent of dealer customers. The average delivery (Table 6) also changed very little. The 275 gal. average drop was just 1.1 gallon less than a year ago; the average drop to 550 gallon tanks was down about 10 gallons.

Based on these figures, the fuel oil dealers surveyed have maintained their market share despite supposed hard times. Aggressive advertising campaigns in many areas, including the New England Fuel Institute's media blitz, the Metropolitan Energy Coalition efforts in New York and New Jersey, plus NOJC public relations and efforts by state and local groups in Pennsylvania, North Carolina and many other areas has halted the exodus to other fuels. Also, the inching up of natural gas prices and talk of decontrol have made many consumers realize that whatever savings exists in gas heat will be only short-lived and that conversions may never pay for themselves.

Problems remain, to be sure, and in the section on energy conservation, Table *a*

Carlin Big Burners

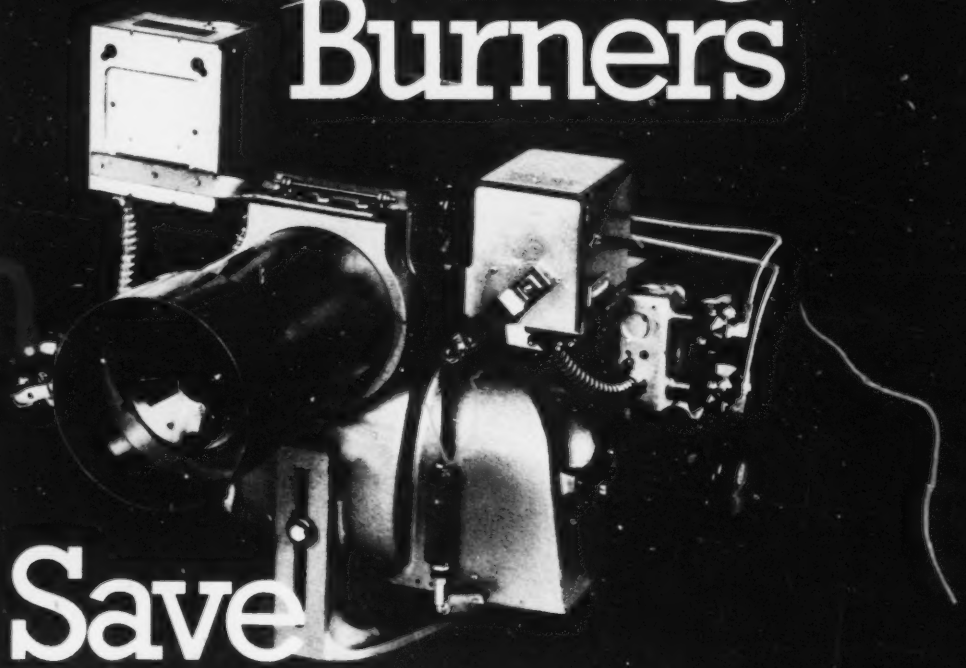

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TABLE 4
Petroleum Products Sold
(Percent of Total Volume)

	No. 2	No. 1	No. 4	No. 5 & 6
New England	83.8%	3.3%	1.6%	0.2%
Mid-Atlantic	64.8	5.2	0.9	3.8
South	56.0	22.2	*	*
Midwest	47.1	6.6	0.2	0.7
West	80.2	3.6	2.6	*
All Sections	*66.4%*	*8.2%*	*1.1%*	*0.9%*
	No. 2 for Diesel	*Gasoline*	*LPG/LNG*	*Other*
New England	2.1%	6.7%	1.6%	0.5%
Mid-Atlantic	6.4	16.8	*	*
South	10.8	11.1	*	*
Midwest	11.2	33.3	*	0.9
West	9.6	2.1	0.5	*
All Sections	*8.0%*	*14.0%*	*0.4%*	*0.2%*

*Less than .1%

TABLE 5
Annual Heating Oil Sales by Types of Customers
(Percent of Total Customers Served)

	Private Homes	Apts.	Educ.	Hospitals	Commercial	Industrial
New England	83.1%	10.3%	0.7%	0.5%	4.8%	1.6%
Mid-Atlantic	77.4	8.1	2.0	1.0	7.0	3.4
South	84.2	1.1	0.8	0.6	11.0	1.3
Midwest	80.9	2.8	1.9	0.4	9.2	4.8
West	87.7	3.0	0.4	0.1	5.4	3.3
All Sections	*82.7%*	*5.1%*	*1.2%*	*0.5%*	*7.5%*	*2.9%*

*Less than .1%

TABLE 6
Average Drop in Gallons

	275 Gal. Tanks
New England	173.9
Mid-Atlantic	178.3
South	163.3
Midwest	188.0
West	178.6
All Sections	*176.4*
	550 Gal. Tanks
New England	354.0
Mid-Atlantic	361.0
South	357.3
Midwest	398.8
West	355.5
All Sections	*365.3*

establishes that fully 75 percent of all dealers have lost customers to gas heat. These losses cannot be discounted but the industry is surviving and doing something about it. All of this is discussed in more detail in the next sections.

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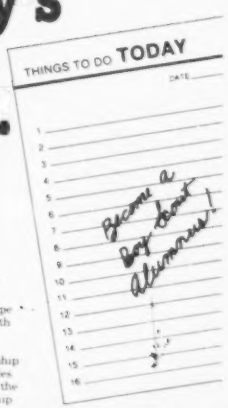

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Computer, Truck Trends Show Optimistic Future

Annual Study
Part II

Half of all dealers surveyed currently use computers in one form or another in their operations. This is nearly 10 percent more than responded affirmatively last year. New England dealers lead the way, with almost 80 percent using EDP. Dealers in the South trail, as can be expected since the average volume per dealer is smallest in this region.

In-house equipment is the most popular, with 61.2 percent of dealers using EDP having their own hardware. Some 17 percent are on-line with their own terminals and printers, but using central processors located elsewhere. Micros have not become the factor that many experts predicted they would be, with just 10 percent of the dealers with computers using them. Batch services, which were supposed to become a dwindling factor, still holds a solid 11.5 percent of the computer market, although this fluctuates considerably in the regions. Mid-Atlantic and Midwestern dealers, for example, are using batch services only incidentally, since less than one tenth of one percent of the dealers responding said they have batch EDP. Southern dealers, on the other hand, still have a considerable percentage using batch—25.0—another indication of the type of market. And micros are used the least in the South.

TABLE A
Percent of Fuel Oil Dealers using Computer Services

		Percent of Those Who Use Computers			
	Using EDP	In-House Mini	In-House Micro	On-Line Time Sharing	Batch
New England	79.2%	73.7%	5.3%	10.5%	10.5%
Mid-Atlantic	62.2	65.2	13.0	21.7	*
South	26.7	50.0	*	25.0	25.0
Midwest	36.1	76.9	15.4	7.7	*
West	45.4	40.0	20.0	20.0	20.0
All Sections	*49.9%*	*61.2%*	*10.7%*	*17.0%*	*11.5%*

*Less than .1%

It goes without saying that trucks are an important aspect of a fuel oil business. Dealers are, after all, truckers to a great extent. Not only are trucks necessary to deliver product, but most dealers need them for their own supplies as well. There are a few lucky dealers along the coasts or inland waterways with deepwater terminals or pipeline availability, but the overwhelming majority must truck their supplies in via tank truck, be it a straight job or semi.

Actually, the number of trucks-per-dealer rose considerably since last year. "Considerably" is a relative word, and in this case it means just 1.3 trucks per dealer. This may not seem much, but to manufacturers of tank trucks and accessories, it amounts to some 14,000 vehicles or more!

Tables B, C, D and E provide answers to many truck questions in addition to how many dealers have. Not only does a typical dealer have 5.4 trucks, but he also has 1.4 semis. His or her delivery trucks range in size from 2737 gallons for the largest in the fleet, to 1885 for the smallest. Regional differences are significant, with Mid-Atlantic dealers liking bigger rigs. The average size of their largest delivery truck is 3279 gallons, and their smallest averages 2343 gals. The South, with smaller deliveries because of the milder weather, use smaller trucks. The average size of the largest delivery rig is 1820 gallons; the smallest is 1253 gallons. We also asked what dealers considered the optimum size for their markets and the overall average is 2680 gallons. This is pretty meaningless, of course, because local laws and markets vary tremendously and have a great affect on the size of truck preferred. Again, the Mid-Atlantic dealers prefer large rigs—3135 gallons to be exact—while the Southern dealers say a 1738 gallon truck is best.

The trucks used by dealers are principally gasoline-powered, but diesels are gaining in use, as well as popularity, as indicated in Table B. Last year just 12.6

TABLE B
Trucks Per Dealer

	Average No. Del. Trucks	Average No. Trailers	Average Size Largest	Average Size Smallest	Optimum Size Preferred
New England	4.0	0.5	3220	2200	3082
Mid-Atlantic	5.6	1.9	3279	2343	3135
South	5.5	0.6	1820	1253	1738
Midwest	4.9	3.3	2410	1848	2481
West	7.0	0.5	2955	1782	2963
All Sections	*5.4*	*1.4*	*2737*	*1885*	*2680*

Engines By Type

	Use			Prefer	
	Diesel	Gas	Both	Diesel	Gas
New England	21.2	30.3%	48.5%	81.8%	12.1%
Mid-Atlantic	32.4	24.3	43.2	83.8	16.2
South	*	66.7	33.3	33.3	46.6
Midwest	11.1	50.0	36.1	47.2	47.2
West	18.2	36.4	45.5	72.7	27.3
All Sections	*16.6*	*41.5%*	*41.3%*	*63.8%*	*29.9%*

*Less than .1%

TABLE C
Average Age Of Trucks

	Year Oldest	Year Newest
New England	1969	1977
Mid-Atlantic	1969	1978
South	1967	1976
Midwest	1972	1978
West	1963	1977
All Sections	*1968*	*1977*
	Percent Buying This Year	
	New Truck	**New Tank Only**
New England	9.4	6.3
Mid-Atlantic	19.4	8.3
South	6.7	*
Midwest	19.4	11.1
West	9.1	*
All Sections	*12.8*	*5.1*

NR—Not Reported
*Less than .1%

TABLE D
Truck Tanks By Type

	Use			Prefer	
	Steel	Alum.	Both	Steel	Alum.
England	58.1%	22.6%	22.6%	38.7%	61.3%
Mid-Atlantic	51.4	18.9	18.9	32.4	64.9
South	80.0	0	20.0	60.0	13.3
Midwest	66.7	8.3	25.0	47.2	30.6
West	36.4	18.2	45.5	27.3	63.6
All Sections	*58.5%*	*13.6%*	*26.4%*	*41.1%*	*46.7%*

percent of the dealers queried said they use diesels exclusively. This figure has grown to 16.6. Some 48.7 percent last year used gasoline engines exclusively, and this has dropped to 41.5 percent. The percent using both has grown from 39.1 in 1980 to 41.3 this year. Preferences also reflect this change. In 1980, 62.4 percent preferred diesel and 37.6 preferred gasoline. This year, the figures are 63.8 and 29.9, respectively. The Midwest, despite its high percentage of dealers involved in gasoline marketing, is evenly divided on preference. More Midwestern dealers use gasoline-powered engines than other sections, but again, diesel is creeping upward. There was virtually no change in the usage in the South, while the other sections responded much more favorably to diesel in terms of preference.

We still don't have a clear winner in the steel vs. aluminum tank controversy. The majority use steel exclusively, although more dealers prefer aluminum. It is of interest that dealers in the South changed their minds about preference quite a bit. Last year it was two to one for aluminum; this year it is the opposite. The same is true for Mid-Atlantic dealers. And to a lesser degree, Western dealers came around to aluminum as a preference, 63.6 percent this year vs. 45.5 last year.

When you consider the reduction in weight of aluminum and the added economy of diesel engines, the reasons for the preferences becomes evident. With overhead becoming an ever increasing factor to dealers, it behooves them to cut their costs where ever possible.

This is further reflected in the age of trucks and percent considering the purchase of new equipment this year, as shown in Table C. Last year, the average age of the oldest truck was 11 years (1969). This year it's 12 years (1968). The average age of newest trucks was four years in 1980; this year it's still four years. This suggests that dealers are keeping trucks on the road a bit longer, trying to stretch out their life span and get a few extra miles out of the equipment.

Some 29.7 percent reported that they expected to purchase a new rig last year. Only 12.8 percent so responded on the current survey. Also, 13 percent were going to put a new tank on an existing truck last year. Now only about five percent intend to do this. Interest rates have a lot to do with this, which also affects the average age of trucks. With interest rates of 18 percent or more, dealers are making do with existing equipment and waiting to see what will happen before investing in new equipment. The market for used equipment is growing, based on other sources we have studied.

TABLE E
Percent Using Two-Way Radios

New England	75.0%
Mid-Atlantic	64.9
South	40.0
Midwest	58.3
West	63.6
All Sections	*60.4%*

Two-way radio equipment is an established tool for effective communications between drivers and home base. Some 60 percent of dealers responding said they equip their rigs with two-way radios.

World Petroleum Outlook Sees Lower Consumption

World oil consumption is projected to grow one percent a year during the 1980s compared with three percent in the last decade and six percent in the 1960s, according to a Bank of America report.

The report, prepared by the bank's Economics-Policy Research Department, says the slowing of oil consumption is the result of rising oil prices, conservation and efficiency gains, and a shift to other fuels.

Among developed countries, the United States will record the largest decline in oil consumption, the 18-page report notes. More fuel-efficient automobiles and aircraft, a shift to other fuels (particularly coal and gas), and the fuel-saving effects of increased insulations use will account for much of the decline.

In the remainder of the world, the report states, oil consumption will decline in Western Europe, grow marginally in Japan, increase slightly in Communist countries, and rise appreciably in developing countries.

Other projections in the report are:

- While global oil consumption will increase only marginally, total energy consumption will grow two to three percent a year.
- Coal demand will rise four percent per year, with growth centering in electricity generation and increased industrial usage. Nuclear power will gain in importance as nuclear electricity generating capacity will increase approximately 10 percent a year. World gas consumption is projected to increase less rapidly than in the past, but still will rise about two percent a year.
- Because of slowing consumption growth, adequate supplies of petroleum are anticipated through the 1980's, but political conditions in the Middle East will remain unstable, with temporary supply disruptions a possibility.

More Dealers Sell Diversified Lines

Annual Study
Part III

In 1980, we reported that some 65 percent of dealers sold, installed and/or serviced heating/cooling equipment. This year, that percentage has grown to over 70. On a regional basis, New England dealers are most heavily involved in equipment, with 91.9 percent of those responding saying that they indeed handled equipment. The Midwest, while still having the lowest percentage of dealers involved with equipment, shows a significant increase. In 1980, just 26 percent said they handled heating/cooling equipment. Table I shows that this year, 45 percent sell, install and/or service same.

TABLE 1
Type of Petroleum Sold
(Percent of Readers)

	Fuel Oil	Gasoline
New England	91.9%	16.2%
Mid-Atlantic	92.5	50.0
South	100	33.3
Midwest	97.5	90.0
West	100	27.2
All Sections	*96.4%*	*43.3%*

Dealers who sell equipment also report that 1981 was a better year for sales than 1980. Some 48 percent said sales were up. Last year, only 32 percent had sales increases. Commercial sales showed a decline of some 20 points, however, which probably offsets the gains on the residential side. This is difficult to really determine, since, going back to Table 5 in Section 1, private homes amount to more than 80 percent of dealer customers.

Sales in the South and New England were particularly good, but the Western dealers reported the greatest gains, with

(please turn to page 46)

TABLE II
Trends of Equipment Sales Past 12 Months
(Percent Reporting)

	Residential		
	Up	Same	Down
New England	56.8%	29.7%	13.5%
Mid-Atlantic	37.5	40.0	22.5
South	55.5	22.3	22.2
Midwest	15.0	62.5	22.5
West	75.0	12.5	12.5
All Sections	*48.0%*	*33.4%*	*18.6%*
	Commercial		
	Up	Same	Down
New England	10.8%	68.1%	8.1%
Mid-Atlantic	12.5	55.0	32.5
South	11.1	44.5	44.4
Midwest	2.5	87.5	10.0
West	12.5	43.8	43.7
All Sections	*9.9%*	*59.8%*	*27.7%*

TABLE III
Sources of Business Income
(Percent of Total Business Income)

	HEATING EQUIPMENT			
	Retail		Wholesale	
	Primary	Secondary	Primary	Secondary
New England	40.5%	43.2%	2.7	5.4
Mid-Atlantic	37.5	37.5	7.5	12.5
South	13.3	40.0	*	6.7
Midwest	17.5	12.5	*	10.0
West	45.5	36.4	*	9.1
All Sections	*30.9%*	*33.9%*	*2.0%*	*9.7%*
	A/C			
	Primary	Secondary	Other	
New England	*	10.8%	24.3%	
Mid-Atlantic	5.0	7.5	17.5	
South	*	26.7	13.3	
Midwest	10.0	7.5	27.5	
West	9.1	*	9.1	
All Sections	*4.8%*	*10.5%*	*18.3%*	

*Less than .1%

TABLE IV
Percent of Fuel Oil Dealers That Sell, Install and Service Selected Heating/Cooling Equipment

	Residential				
	Oil Burners	Gas Burners	Domestic Hot Water	Boilers	Hydronic Systems
New England	91.9%	18.9%	86.5%	86.5%	70.3%
Mid-Atlantic	85.0	12.5	75.0	67.5	62.5
South	60.0	6.7	20.0	26.7	6.7
Midwest	37.5	17.5	27.5	20.0	10.0
West	63.6	9.1	45.5	36.4	9.1
All Sections	*67.6%*	*12.9%*	*50.9%*	*47.4%*	*31.7%*
	Commercial/Industrial				
	Oil Burners	Gas Burners	Domestic Hot Water	Boilers	Hydronic Systems
New England	59.5%	8.1%	37.8%	45.9%	40.5%
Mid-Atlantic	67.5	10.0	55.0	50.0	35.0
South	40.0	*	13.3	13.3	*
Midwest	25.0	15.0	15.0	12.5	7.5
West	45.5	9.1	18.2	18.2	9.1
All Sections	*47.5%*	*8.4%*	*27.9%*	*28.0%*	*18.4%*

*Less than .1%

75 percent saying business was better than last year. In 1980, just 18 percent said their equipment sales were better than the year before.

Some 30 percent of all dealers said retail heating equipment sales were a primary source of their income. Another 33.9 percent said it was secondary. Still another 11.9 percent said wholesale equipment produced either a primary or secondary source of income. Air conditioning sales represented a primary source of income to just 4.8 percent. Some 10 percent included air conditioning as a secondary source. Other sources of income was included by 18.3 percent of the dealers polled. This ranged from swimming pool sales and service, sales of many other products, including TBA, road asphalt, lube oils, etc.

Regionally, over 80 percent of New England dealers felt that equipment sales represented either a primary or secondary source of income. Seventy five percent of the Mid-Atlantic dealers felt this way, but just 30 percent of Midwestern dealers reported that equipment sales were important.

Some ⅔rds of all dealers sell and install residential oil burners. Of this, the Midwestern dealers install the least, with only 37.5 percent of them reporting that they do so. As usual, the New England and Mid-Atlantic dealers lead the way in this category.

More dealers evidently install furnaces than boilers, according to the results of the survey. Table IV shows that some 47 percent said they sell, install and/or service boilers, and Table VI reflects that more than 67 percent said they handle furnaces. Actually, more dealers said they install or service domestic hot water equipment and warm air systems than hydronic heating equipment. Hydronics being more prevalent in the New England and Mid-Atlantic regions is reflected by the regional figures on these categories. Some 86.5 percent of New England dealers and 67.5 percent of Mid-Atlantic dealers install boilers. By the same token, almost all dealers in these regions install or service furnaces, which perhaps suggests that warm air heating is gaining in popularity.

The fact that new home starts are off tremendously according to government statistics and the housing industry makes it questionable as to whether warm air equipment is being installed on a retrofit basis or in new construction. Traditionally, warm air has been more popular in new homes because of the convenience of being able to add central air conditioning (which, by the way, is handled by 19.3 percent of the respondents).

TABLE V
Percent of Fuel Oil Dealers That Sell, Install and Service Selected Heating/Cooling Equipment

Residential

	Unitary A/C	Electric Resistance	Insulation	Solar
New England	10.8%	5.4%	10.8%	10.8%
Mid-Atlantic	7.5	5.0	10.0	10.0
South	*	6.7	13.3	*
Midwest	15.0	*	*	2.5
West	*	*	*	18.2
All Sections	*6.7%*	*3.4%*	*6.8%*	*8.3%*

Commercial

	Unitary A/C	Electric Resistance	Insulation	Solar	Refrigeration
New England	10.8%	2.7%	5.4%	10.8%	2.7%
Mid-Atlantic	10.0	2.5	7.5	7.5	2.5
South	*	*	13.3	*	*
Midwest	7.5	2.5	*	*	5.0
West	*	*	*	18.2	9.1
All Sections	*5.7%*	*1.5%*	*5.2%*	*7.3%*	*3.9%*

*Less than .1%

TABLE VI
Percent of Fuel Oil Dealers That Sell, Install and Service Selected Heating/Cooling Equipment

Residential

	Furnaces	Warm Air Systems	Central Air Cond.	Heat Pump	Continuous Air Circulation
New England	91.9%	73.0%	21.6%	8.1%	5.4%
Mid-Atlantic	80.0	67.5	15.0	12.5	7.5
South	53.3	40.0	26.7	20.0	*
Midwest	37.5	30.0	15.0	5.0	*
West	72.7	54.5	18.2	18.2	*
All Sections	*67.1%*	*53.0%*	*19.3%*	*12.8%*	*2.6%*

Commercial

	Furnaces	Warm Air Systems	Central Air Cond.	Heat Pump
New England	45.9%	43.2%	13.5%	5.4%
Mid-Atlantic	50.0	42.5	17.5	7.5
South	26.7	13.3	6.7	13.3
Midwest	17.5	15.0	15.0	5.0
West	45.5	27.3	9.1	9.1
All Sections	*37.1%*	*28.3%*	*12.4%*	*8.1%*

*Less than .1%

On the commercial side, some 47.5 percent of the dealers questioned said they sell, install and/or service oil burners. Nearly 28 percent install domestic hot water and boilers in commercial installations, and about 37 percent install commercial furnaces. These figures are all up from last year, intimating that more emphasis is being placed on the commercial market as conservation and conversions make inroads.

An interesting statistic is in gas burner sales. Some 13 percent said they install residential gas burners, and 8.4 percent do so for commercial customers. Is this further evidence of the fuel oil dealer becoming an integrated HVAC dealer? Who knows. Since 3.4 percent install electric resistance heating, 6.8 percent install insulation, 8.3 percent handle solar, and 6.7 percent install unitary air conditioning, it is a safe assumption that indeed dealers have become more rounded in their avenues of income. The figures on the commercial side are comparable, so although the residential market is still the number one business for the oil heating dealer, he or she continues to penetrate other areas. None of the figures, by the way, changed much from the previous year, indicating that what was published last year was valid, and so forth.

The average dealer installed 53.8 oil burners in 1981, down just slightly from 55.1 last year. Mid-Atlantic was down somewhat, with 78.2 burners per dealer. Last year, this figure was 92.5 units per dealer. Western dealers did a bang-up job, installing more than 101 burners per dealer, which is up from 79.2 last year.

Dealers also installed an average of 8.2 boilers and 21.0 furnaces. The boiler figure is down from 10.8 last year; the furnaces are an increase from 15.7 last year. On the commercial side, all sales were lower than last year. Burners installed per dealer amounted to 4.4 this year and 5.8 in 1980. Boilers were 1.6 in 1981 compared to 3.4 a year ago and furnaces were down to 1.2 from 3.8 in 1980.

So it's a mixed bag. Some sales are up, some are down. More dealers are selling equipment, meaning that they're out there fighting to keep oil heat's share of the market. Every installation of new oil heating equipment is a commitment to the industry for many years, so is the best method of insuring the retention of a customer base and a future for your business.

TABLE VII
Average Number of Units Installed in Past 12 Months

	Residential				Commercial		
	Burners	Boilers	Furnaces		Burners	Boilers	Furnaces
New England	34.0	7.2	6.0	New England	2.2	1.4	0.8
Mid-Atlantic	78.2	15.7	18.4	Mid-Atlantic	11.5	3.7	1.0
South	8.3	0.2	11.1	South	*	*	*
Midwest	47.1	10.3	29.0	Midwest	6.4	3.0	4.0
West	101.8	7.5	40.5	West	2.0	NR	NR
All Sections	*53.8*	*8.2*	*21.0*	*All Sections*	*4.4*	*1.6*	*1.2*

*Less than .1
NR—Not Reported

Study Says HVAC Market To Shift to Solar, Heat Pumps

Household energy use accounts for some 20 percent of total energy consumption in the U.S., with half of that devoted to space heating alone. It is not surprising, then, that a big market has opened up for residential heating, ventilating, and air conditioning (HVAC) equipment and controls that offer *documented* fuel savings and an *adequate* payback period.

The above observation, taken from a new technology market study by Frost & Sullivan, Inc., may be rather obvious, but not so with the findings that emerge from the in-depth probe: Namely, that the gas heat pump, solar hot water heater, and, ultimately, photovoltaics will become the major equipment types to be installed in residences for HVAC purposes.

What's more, commercial success in such new equipment markets will depend, not on technical gee whiz or excitement, but rather "on marketing leadership," except for photovoltaics, according to the 352-page study, entitled "The Market for Energy Efficient Residential Heating and Cooling Equipment and Associated Controls."

Indeed, improved fuel efficiency is a force that underlies even conventional HVAC systems as well, especially oil-fired furnaces. Recently, GK Technologies put a hydronic pulse combustion system on the market, for example. In addition, other pulse combustion designs are in field test by at least two other major vendors. They are likely to be marketed "next year," F&S says.

Yet another major vendor is developing an advanced condensation system, which will also significantly improve burning efficiencies. Further out on the time horizon is the heat pipe furnace, which promises as much as 98 percent steady-state fuel efficiency.

On a less glamorous note, even oil burning furnace controls have become "a big business," F&S finds. Set-back thermostat sales, for example have increased twenty-fold since pre-1973, or before the Arab oil boycott.

Nevertheless, for the longer term, the future definitely lies with entirely new devices, says F&S. The study points to "sharp declines" in sales of oil furnaces central electric systems, and electric heat pump sales. Of nine cities examined in-depth in the F&S study, for example, electric heat pumps has an acceptable payback period only in two cities.

But, the story is entirely different—and upbeat—for *gas* type heat pumps. Market share for these new devices, virtually nil today, will hit one percent of total housing starts in 1985, surpassing unit shipments of electric types.

Market share will then proceed to climb to 15 percent in the mid-1990s and continue to rise to 21 percent by year 2000. "Gas-driven heat pumps will emerge as the lowest cost HVAC system *in all cities*," F&S concludes.

Solar energy, of course, will also find widespread use in residences, F&S says. But solar water heating, not space cooling or heating, offers the only true mass market potential, the study adds.

The research firm anticipates significant automated mass production of photovoltaic cells in less than three years and the first commercial sale of an "all photovoltaic home" by 1986. Photovoltaic "furnaces" will replace fuelburning and even conventional solar energy sources, F&S believes. The role of photovoltaics may be speculative in the near term, F&S concludes, but it is a certain technology for the long term.

The further information, contact Customer Service, Frost & Sullivan, Inc., 106 Fulton Street, New York, NY 10038. (212) 233-1080. Report #892.

Quality is Main Concern In Equipment Sales

Annual Study
Part IV

Although 75 percent of all dealers responding to our annual study indicated that they have lost customers to gas heat over the past year, there are fewer dealers concerned about it than last year. As indicated in Table *a*, the average dealer nationwide lost 64.4 customers to the competition this year, up from 60.3 reported in our last survey. However, only 54.9 percent of these dealers said that gas is a major threat to their viability, which is down from 61.6 percent who said so last year. This can be attributed to the fact that gas heat conversions seem to have leveled off and in fact are down considerably from a year ago, partly due to saturation and partly due to the growing realization that gas heat isn't the bargain the utilities say it is.

About 46 percent of the dealers responding said they are taking steps to combat the gas competition. Many in fact may be taking such steps without knowing it, such as in the sale of retrofit equipment, etc.

A number of dealers are making conversions to gas heat themselves, with some 13 percent saying that they'll do the work. The rationale seems to be that if they're going to lose the account anyway, they might as well make a profit installing the equipment than giving it to a plumber. Also, there's always the possibility that the customer will eventually become disenchanted with the gas equipment and want to convert back, and dealers will be in an excellent position to do so. Dealers who make gas conversions said they did an average of 39.8 such jobs.

Other indirect steps taken to fight the competition include offering such services as on-site energy audits to help upgrade equipment. Some 42 percent of the dealers surveyed said they offer on-site audits. This ranged from just 16 percent in the South to 70 percent of Western dealers.

Do dealers influence the equipment purchased by the consumer? Unequivocally yes, according to Table *d*. Some 60.9 percent of the dealers recommend brand names, and 80.6 percent of the customers follow dealer recommendations.

Often manufacturers claim that dealers are influenced solely by price and that a high markup is the primary consideration for taking on a new line. Table *h* refutes this theory, indicating that the principal consideration is combustion efficiency, followed by quality of construction and low incidence of service requirements. Just 1.1 percent of the dealers surveyed said that high markup opportunity was the major factor in brand selection.

What do dealers perceive to be the most effective means of reducing energy consumption? Table *f* gives the percentage of dealers responding to various options. Increasing ceiling insulation was favored by 49.3 percent of all dealers, followed closely by replacement of the burner. Replacement of old furnace/boiler came in third, with lower thermostat during the day next.

Dealers recommend the replacement of a furnace or boiler most often when it is old and inefficient, as shown in Table *g*. A unit producing continuous problems is also a prime candidate for replacement, as is a leaking boiler and a furnace which emits fumes.

We asked dealers what they felt was the real reasons customers converted to gas heat. Almost half said cost was the reason, as revealed in table *i*. Less service, convenience and abundance of gas were just about equally divided as reasons behind the cost.

We asked two questions about the FTC labeling law, which has now been in place about a year or so. We were particularly interested in seeing how dealer opinions would change, since the last time we asked these questions the law was just being implemented. Saying the law has a positive impact were 54.6 percent of the dealers responding. This was down from ⅔rds which said so last year. Some 13 percent said is having a negative impact, which is up from 6.6 percent a year ago. About 43 percent said its impact is either major or fairly strong,

TABLE a
Percent of Dealers Losing Customers to Gas Heat

	Percent Losing Customers	Average No. Customers Lost
New England	77.1	21.0
Mid-Atlantic	91.7	52.3
South	75.0	38.3
Midwest	71.4	174.1
West	60.0	36.5
All Sections	*75.0*	*64.4*

Table b
Percent of dealers indicating gas conversions are a major threat to their business and what they're doing about it

	% Saying Gas is A Major Threat	% Taking Steps To Combat Gas
New England	57.1	42.9
Mid-Atlantic	66.7	61.1
South	50.0	41.6
Midwest	60.7	46.4
West	40.0	40.0
All Sections	*54.9*	*46.4*

Table c
Percent making conversions from oil TO gas

	% Making Gas Conversions	Average No. Conversions Made
New England	17.1	6.2
Mid-Atlantic	13.8	6.7
South	*	*
Midwest	25.0	134.8
West	10.0	51.5
All Sections	*13.1*	*39.8*

*Less than .1%

Table d
Brand Name Specifications
(Percentage of dealers who recommend equipment replacements by brand)

	% Recommend Brand Name	% of Customers Following Recommendations
New England	85.7	94.1
Mid-Atlantic	80.6	89.2
South	41.6	59.0
Midwest	46.4	73.9
West	50.0	87.0
All Sections	*60.9*	*80.6*

Table e
Percent offering on-site home energy audits

New England	42.9
Mid-Atlantic	61.1
South	16.6
Midwest	21.4
West	70.0
All Sections	*42.4*

either positive or negative, compared with roughly the same figure last year. However, fewer said it was only minor or no impact, 26.9 percent this year against 32.7 in 1980. About the same percentage agree with the law this year as did in 1980, amounting to more than 60 percent. Almost 30 percent were neutral. The regional figures were so similar on Tables *i* and *j* that they were omitted for expediency.

We added two questions this year that were aimed at increasing our awareness of our own effectiveness and what dealers think of the futures market.

With regard to the futures market, we asked dealers if they traded on the New York Mercantile Exchange, but such a small number responded affirmatively that no hard data could be generated. It amounts to less than one percent.

Finally, in the words of New York City's mayor, Ed Koch, we asked "How're we doing?" Specifically, we asked which publications were most help-

Table f
Percent Indicating Modifications Which Offer Potential For Significant Energy Saving

	New England	Mid-Atlantic	South	Mid-West	West	All Sections
Replace old furnace/boiler	68.6	72.2	16.7	28.5	10.0	39.2
Increase ceiling insulation	34.3	44.4	50.0	67.9	50.0	49.3
Replace burner	68.6	52.8	25.0	25.0	60.0	46.3
Install storm windows & doors	20.0	27.8	33.3	39.2	20.0	28.1
Burner tuneup	22.9	22.2	16.7	28.6	10.0	20.1
Lower eight-our thermostat to 60° (at night)	14.3	19.4	16.7	14.3	30.0	18.9
Lower thermostat to 68° (during the day)	31.4	25.0	33.3	32.1	30.0	30.4
Weatherstrip/caulk windows	2.9	5.6	33.3	39.3	40.0	24.2
Lower water heater to 120°	*	5.6	16.7	7.1	20.0	9.9
Re-size furnace/boiler	11.4	2.8	8.3	3.6	—	5.2
Install stack damper	5.7	8.3	—	3.6	—	3.5
Raise air conditioning thermostat to 78°	*	5.6	25.0	*	—	6.1
Reduce bath water use by one-third	5.7	8.3	25.0	*	—	7.8
A/C Tuneup	*	5.6	*	3.6	—	1.8

*Less than .1%

Table g
Percent Recommending Furnace/Boiler Replacement Under Following Conditions

	New England	Mid-Atlantic	South	Mid-West	West	All Sections
Operating with no problems, but old & inefficient	71.4	80.6	58.3	42.9	60.0	62.6
Boiler leaks	57.1	55.6	16.7	42.9	40.0	42.5
Furnace emits fumes	48.6	33.3	41.7	17.9	40.0	36.3
Furnace/boiler breaks down	42.9	47.2	25.0	21.4	30.0	33.3
Furnace/boiler gives continuous problems	40.0	25.0	41.7	53.6	60.0	44.1
Furnace/boiler is inefficient (but not necessarily old)	42.9	44.4	41.7	14.3	20.0	32.7
Homeowner objects to heating bills	11.4	13.9	33.3	14.3	30.0	20.6
Homeowner threatens to convert to another fuel	5.7	55.6	16.7	17.9	20.0	23.2

Table h
Percent Indicating Major Factor in Brand Selection

	New England	Mid-Atlantic	South	Mid-West	West	All Sections
Combustion efficiency	82.9	94.4	58.3	64.3	80.0	76.0
Quality of construction	62.9	80.6	75.0	60.7	60.0	67.8
Ease of service	28.6	38.9	33.3	32.1	10.0	28.6
Low incidence of service requirements	40.0	33.3	8.3	46.4	30.0	31.6
Durability	5.7	13.9	*	10.7	10.0	8.1
Low retail price	11.4	*	*	10.7	*	4.4
Quietness	2.9	8.3	8.3	7.1	10.0	7.3
Long warranty	17.1	11.1	41.7	3.6	20.0	18.7
Compactness	8.6	13.9	33.3	14.3	30.0	20.0
High markup opportunity	5.7	*	*	*	*	1.1
Other	2.9	8.3	*	*	*	2.2

*Less than .1%

ful to dealers in operating their fuel oil business. The results are in Table (1), indicating that *Fuel Oil News* is by far the most highly regarded industry publication. It's indeed gratifying, and we pledge to continue our efforts to provide all the necessary information available to help the fuel oil dealer maintain his or her viability in this highly competitive and changing marketplace.

Table i
Reasons Consumers Switch to Gas Heat

	All Sections
They think gas is less expensive	47.5
They think gas requires less service	20.8
They think gas is more abundant	20.0
They think gas is more convenient	25.0

Table j
How Dealers Feel About FTC Labeling Rule

	All Sections
Strongly agree	40.0
Agree	20.8
Disagree	6.7
Strongly disagree	4.2
No opinion	28.3

Table k
What Dealers Feel is the Impact of an FTC Labeling Law

	New England	Mid-Atlantic	South	Mid-West	West	All Sections
Feel it has a positive impact	57.1	61.1	25.0	50.0	80.0	54.6
Feel it has a negative impact	5.7	19.4	25.0	14.3	—	12.9
Feel it has a major impact (either positive or negative)	14.3	5.6	8.3	10.7	10.0	9.8
Feel it has a fairly strong impact (either pos. or neg.)	28.6	41.7	16.7	42.9	40.0	34.0
Feel it has only minor impact (either pos. or neg.)	72.9	36.1	8.3	17.9	20.0	21.0
Feel it has no impact whatsoever	8.6	2.8	—	17.9	—	5.9

Table (1)
Industry Publication Most Helpful to Dealers in Operating Their Fuel Oil Business.

	New England	Mid-Atlantic	South	Midwest	West	All Sections
Fuel Oil News	86.5	82.5	66.7	70.0	80.0	77.1
Fueloil & Oil Heat	35.1	27.5	26.6	17.5	60.0	33.3
Nat'l. Petroleum News	13.5	12.5	20.0	25.0	*	16.2
Contractor	13.5	2.5	2.5	*	*	3.7
Snips	*	2.5	*	*	*	0.5
Pet. Mktg. Mgmt.	2.7	12.5	12.5	6.7	*	6.9
Oil Daily	2.7	10.0	*	12.5	*	5.0
Petroleum Equipment	5.4	2.5	6.7	5.0	10.0	5.9
Platt's Oilgram	2.7	5.0	6.7	2.5	*	3.4
Oil Week	8.1	20.0	13.3	37.5	20.0	19.8
The Lundberg Letter	2.7	5.0	6.7	2.5	*	3.4
Other	8.1	5.0	*	*	*	2.6

*Less than .1%

Bio-Energy Systems Acquires Calmac Solar Collector Line

Bio-Energy Systems, Inc. and Calmac Manufacturing Corp. jointly announced the acquisition by Bio-Energy Systems of the Sunmat solar pool heating line of products and Calmac's assets in the manufacture and distribution of these products. The purchase, which includes Calmac's roll-out solar collector patent, was made for 1.2 million shares of stock in Bio-energy and an undisclosed amount of cash and certain other considerations.

According to Calvin D. MacCracken, president of Calmac, "The roll-out flexible solar collector is a significant step towards bringing down the overall cost of solar energy and making it a truly mass marketable product."

GOLD KEY AWARD—Hans Kuster, vice president of Taco, Inc., presents the Taco Gold Key Award to Tom Swan, president of Emerson Swan, Norwood, MA, manufacturer's representative. Emerson Swan had record sales of the Taco MasterMind energy saving computer.

Accessory Suppliers

(from page 52)

624 WHOLESALERS, CONTROLS & ACCESSORIES
JOHNSON CONTROLS
SID HARVEY INDUSTRIES
STADLER CORP

625 INSULATION
APPROPRIATE TECHNOLOGY
CURTIS INSULATION

628 WATER STORAGE TANKS
BROWN BOILER & TANK
BRYAN STEAM CORP
FEDERAL BOILER
HIGHLAND TANK
SUPERIOR BOILER WORKS
WEST MARK TANKS

630 VISCOSITY METERS
BROOKFIELD ENGINEERING

631 COUPLINGS, PUMP & MOTOR, FLEXIBLE
CROWN ENGINEERING

632 UNIFORMS & PROTECTIVE CLOTHING
EDMONT
UNITOG

635 LUBRICATING & PENETRATING OILS
STEWART HALL CHEMICAL CO

636 CORROSION INHIBITORS
STEWART HALL CHEMICAL CO

637 SLUDGE & WATER DISPERSERS, TANK
STEWART HALL CHEMICAL CO

639 PIPE THAWING EQUIPMENT
UNIPRISE SALES CORP

700 PETROLEUM FUTURES BROKERS
AMEREX OIL ASSOC
SHEARSON/AMERICAN EXPRESS
MARC COMMODITIES